Wood furnishes containers for food, drinking vessels, milking vessels, mortars, pestles, tent stakes, crosspieces and boards for making saddles. The Ahaggar does not have more than five or six species of woods which can be worked, and the articles, very simply shaped, are much less varied than in the Sudanese tribes.

All Ahaggar women, noble or vassal, know how to tan, remove hair from, sew, decorate, and embroider leather. They are able to make a waterskin needed to carry water, prepare skins to make tents, and manufacture bags for transporting food and personal objects. They have all become so expert in these labors that it is

Fig. 47. Amoula, a little wooden "bottle" for young children to drink from.

difficult to find any other peoples in the world who possess such a developed leather craft.

The scarcity of vegetable materials in the Ahaggar is one of the reasons why the use of esparto is relatively restricted. Only the stems of a graminacea common in the wadies (Panicum turgidum) are used to make mats -- large enclosing mats which surround the tent, sleeping mats, mats for covering plates.

/278/ The stems are bound by little leather thongs, and the combination of graminacea and leather is extremely effective; it allows very regular geometric decorations at the same time as a very solid work.

There are no esparto vans among the Tuareg. The women use palm-leaf vans and hats, but these articles are the work of the Harratin from the little palm groves of Silet, Ideles, and Abalessa.

283 462 Spinning is done by all Tuareg women. They spin the hair of the goat, the camel, and the wild sheep, making very solid cords and saddle girths.

286 Weaving is limited to the making of goat's-hair, or more rarely camel's-hair, bags. This is a very primitive technique which does not require any loom and which is, furthermore, in the process of disappearing from the Ahaggar, where only a few noblewomen still practice it. It is completely extinct in Sudanese tribes.

324 438 Stonework, a relic of Neolithism, was still carried on in the Ahaggar a few years ago to make arm rings. Layers of granitoid schists were formerly worked at Aseksem and Terahart in the Tafedest. We also found an ancient workshop south of Silet on the banks of the Tamanrasset wadi. Today all stone bracelets come from Air and a few from Hombori, where they are manufactured by Tuareg or Hausa artisans.

[415 322]

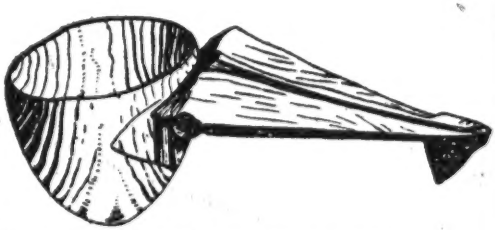

Fig. 48. Tabarekkat wooden ladle, also serving as a drinking vessel.

326 [564] [135] Metalworking is exclusively in the hands of the Enaden, who transform silver, copper, and iron. These materials, with the exception of iron, do not exist in a native, workable state in the Ahaggar. But although iron ore is common /279/ in some volcanic rocks of their country, the Tuareg do not have it exploited, for it is found in such small particles that it necessitates a disproportionate amount of forge work for the quantity likely to be recovered. Nevertheless, the memory of casting ore still remains among the Enaden. They use several forges at once, but do not know [439] the blast furnace. The caravaneers coming from the north or from the Sudan used to bring metals.

317 326 At the present time silver comes from coins which are melted. For years the Tuareg have had Maria Theresa dollars at their disposal; these

They use camel hair to make rope. They are fond of camel meat, and it is they who supply the markets of the Tidikelt with it. 237 283 262 439

There are very few cattle in the Ahaggar, barely thirty, and almost all these belong to Si Mokhammed ag Otsmane, of Tazerouk. They are used to draw water from the wells into the ar'erems. The pasture is scanty, and besides the cattle easily wear out their hooves on the rocks and stones. 233 492 [312]

In the Koudia, because of the cold which prevails there and the high altitude, there are many small turrets of dry stones, /65/ empty inside, in which the Tuareg confine lambs and kids at night to shelter them from the cold. 233 343

The Ahaggar do not have a large number of meharis, and they do not like to sell them, especially the good ones. Among themselves, to set the value of a mehari, they say, "Such a mehari is worth two, three, or four camels." All their meharis are trained to start at a gallop. The Tuareg has great patience with the training of his mehari and never mistreats it. He confines himself to persuading it by voice and foot, and it is perhaps for this reason that the Tuareg mehari is much more silent than the Arab mehari. 233 [435]

The foundation of the pastures of the Ahaggar is aremmas (Atriplex halimus, Salsolaceae). This plant is quite laxative. So when the year is bad and drought prevails, the Ahaggar are found emigrating toward the Adhar'. There are fine pastures of "had" (Cornulaca monacantha, Salsolaceae) in the south of Tin R'arhou, but there is no water. Moussa ag Amastane /66/ intends to have wells dug there and has requested our help and advice for this purpose. 137 233 [312 648]

As a rule the Tuareg let their camels out to pasture without herders, and they find them again at the well or by tracking, unless they entrust the herding to children or negroes. 233

/67/ A young camel is called "abal" without designating its age. A camel in general is called "amadjour," plural "imoudjar," or else "amiss," plural "imnass." A female is 192 233

5: Nicolaisen E-4, 5 (1951-1955) 1959
MS25 Tuareg MS25
Ahaggar

for the manufacture of a few insignificant objects. To most Ahaggar Tuareg the camels have little direct economic value. But in raids of the past camels were very valuable riding animals, and they were then as now extremely important for caravan trading, which provides the Tuareg with most of their vegetable food.

The economic role of goat-breeding is very different. Goat-products play a very comprehensive part in Tuareg nourishment. Goat's milk is not only drunk, but is also made into butter and cheese which can easily be stored. Goat's meat is superior to camel's meat, and one goat does not contain more meat than can be eaten quickly by the members of a normal household. Furthermore goats are very important in Tuareg craft; tents, waterbags, and containers for different sorts of liquid and solid food are made predominantly from their skin, which was formerly also employed for whole garments. Goat's hair is extremely useful as material for ropes with which domestic animals are tethered, camel-loads are fastened, and the like.

Pastoral Tuareg could not survive in Ahaggar without goats. They might be able to subsist without camels, which can be replaced by donkeys as beasts of burden. But camels make life much easier to the Ahaggar Tuareg, who nowadays as in the past base their economy mainly on camels and goats. I think it is fairly correct to say that most Ahaggar Tuareg get their milk-food from goats, their vegetable food from caravan trading by camels.

Formerly the true vassal Tuareg of Ahaggar were not allowed to possess camels, which were owned exclusively by noble Tuareg. Foucauld says that 100–150 years ago the vassals had no camels, but he does not mention his source of information (Foucauld 1951–52, II, p. 534). But it is confirmed by many Tuareg that throughout the 19th century the vassals had not many camels, while they were rich in goats of which the noble Tuareg had very few. Goat products were given to noble Tuareg by vassals. As mentioned, goats and butter form part of the tiouse payments to the Amenokal, and were also an important part of the tiouse paid to other noble Tuareg of the Kel Ṛela. But the noble Tuareg who were masters of the small temaẓlait-units within the drum-group could apparently claim practically whatever they wanted from their vassals. The noble Tuareg, Duveyrier says, in reality had all rights over their vassals' property. But they were themselves interested in having rich vassals, and would not discourage them by claiming too much. When in need of riding camels the noble Tuareg could freely take animals from their vassals. The vassals had also an obligation to feed their noble lords, who at certain times would camp among them (Duveyrier 1864, p. 334 ff.). This is also stated by Benhazera, but he claims that the vassals would not necessarily give everything demanded by noble Tuareg (Benhazera 1908, p. 54). The noble Tuareg of to-day have not ceased to claim food products and the like from their vassals. Poor noble Tuareg frequently ask gifts from their vassals, and there are even noble Tuareg who temporarily camp close to rich vassals from whom they acquire part of their food. Vassals may also lend their she-camels to noble Tuareg, who will return the animals when milk-yielding stops, and this is considered an old privilege of the nobility.

233 /83 cont./ The Ahaggar goat (a goat: "tirsi"; plural: "oulli") is small, lively, a good walker. It has long black hair, but crossing it with Sudanese goats gives offspring with black and white coats. Milk production is very variable according to the seasons and the abundance and quality of the pastures. A very good milch goat may produce nearly two liters of milk per day, a month after having given birth. The average production is about one liter a day for the two milkings. Goat's milk furnishes butter, "oudi amellen," which is cooked to preserve it: "oudi"; it also is made into the different cheeses (let us recall that camel's milk is used only for drinking).

It is estimated that there are about 20,000 goats in the Ahaggar, although there may be more. The Tuareg keep one male for about 50 females. The Ahaggar goat bears one [262] kid, sometime two, but very rarely. The male kids are always eaten young; they constitute the bulk of meat consumption by the Tuareg.

[283] Goat hair is used to make ropes of all sorts, and we shall see how the hide is used in making all of the Tuareg furniture.

Sheep raising is very limited; the number of head would hardly come to a tenth of the caprine livestock, and most of the sheep are found in the Tin-Zaouaten region.

The sheep raised in the Ahaggar is a native of the Sudan; long legged, it has no wool but long stiff hairs, generally fawn colored. Its meat is excellent. It is a robust animal, a good walker, but according to the Tuareg does not bear up well during the dry years in the Ahaggar, the pastures not being sufficiently nourishing. This sheep /84/ accomplishes considerable feats; the Tuareg drive flocks from the Adrar des Iforas to the markets of the Tidikelt and the Aïr in the Ahaggar. These migrations are carried out, of course, in the winter, but the regs crossed are truly poor in water points, and the pastures are sufficiently rare to make these journeys a remarkable exploit.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

younger animals which yield more milk. Again, the meat of very old goats is of inferior quality. Much goat-meat derives from he-goats of which a very limited number is needed for mating. Some Tuareg claim that one he-goat is able to cover about a hundred goats, but as a rule I doubt whether it would be called upon to do so. In any event, too many he-goats are brought forth, and even very young male kids are frequently killed and eaten as there will be more milk for the nomads when such animals do not have to be suckled. It is considered ideal that male kids which are not needed for reproduction, and which are not killed at very early age, should be castrated at the time when weaning takes place, but even old he-goats may be castrated to make them fat for slaughtering.

Though meat is not a stable dish of the Tuareg they have to kill a certain number of goats every year to obtain skin for the manufacture of various domestic utensils. The roaming life in the desert necessitates a great many containers for water, butter, milk, grain, dates, and the like, and bags made from goat-skin are appropriate for this purpose. Indeed, goat-skin is so important to Tuareg craft that in speaking of the manufacture of most domestic articles one can hardly avoid mentioning the word "goat". Thus, my fairly large collection of ethnographic specimens from the Ahaggar Tuareg contains about fifty different objects made entirely or mainly of goat-skin, which is also used for the manufacture of tents among the Northern Tuareg. Even nowadays, a few articles of dress are made from goat-skin, and goat-skin was in general use for this purpose in the past (cf. p. 287 ff.).

Goat-hair is extremely useful to the Northern Tuareg. The hair is cut once a year in the hot season when the animals do not suffer from cold (cf. Fig. 98). It is spun into strong cords used for tethering animals, for tying up caravan loads, for reins, and the like. In certain tribes of Ahaggar it is also used for a very primitive kind of weaving (cf. p. 265 ff., Figs. 209a–b).

To understand the economic role of goat-breeding one must briefly touch on the question of size of flocks. Statistics concerning the ownership of livestock must always be regarded with much suspicion, as it is extremely difficult to obtain data. It is not only most impolite to ask Tuareg about the size of

Fig. 20. A kid with the stick (*akara, aseḍres*) pierced through the mouth as described in the text. Tasílé-n-Ajjer, the *Kel Tarwit* tribe.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

yield decreases to about two litres (Doutressoulle 1947, p. 104). It should be added that, as for other domestic animals, the daily yield of milk depends very much on the conditions of pastures, and cows always yield little milk when pastures are dry – even at the beginning of their lactation period.

Bulls are frequently castrated two or three years old to be used for riding and transportation. Oxen are used for this purpose particularly among the Tuareg of the plains towards the south and west, while most pastoralists of the Massif almost exclusively use donkeys and camels. Oxen are ridden without a saddle. The rider sits on the back of the animal which is covered with a blanket or a piece of cotton as in Ahaggar. The animals have a cord (*asabar*) placed through their nostrils, but plaited halters (*amerar*) are also used for riding oxen.

The Tuareg have terms to cover the age and sex of their cattle, and they also have a certain number of colour terms; but they say that there are very few colour terms for cattle (about ten terms according to Tuareg of the *Kel Ferwan* group). They explain this lack of colour terms by the fact that cattle did not play any important rôle to their subsistence in the past. Cattle do not respond to their names, but some of them will come to the camp on the utterance of a certain cry (cf. p. 135).

Fig. 31. Zebu calf with a pronged stick (*tabellut*) put through its nostrils to prevent sucking. Ayr, the *Isakarenan* tribe.
Fig. 32. Muzzle (*akimbab*) to wean zebu calves. The muzzle is made of boughs of the *tamat* acacia (*Acacia flava*) which form a frame covered with cords of *tamat* bast and with cotton strips. It is fastened to the head of a calf with a piece of cord plaited of goat's hair, and the attachment is done in such a way that the calf can graze without difficulty though it cannot suck. Tamesna, Ahaggar Tuareg of the *Iregenaten* tribe. Dimension: 0.17–0.19 m high. (N. M. G. 6661).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

233*
283 ●

Fig. 39. A very young camel calf tethered in the camp by means of the *témdit* rope depicted below (Fig. 40). Tamesna, Ahaggar Tuareg of the *Iregnaten* tribe.

she-camels which are difficult to milk because they will not allow the calf to suck. The method has been described to me by Tuareg of Ayr. It is named *arazak* and is as follows:— Fresh camel-dung is put into the nostrils of the mother-camel, and its nose is thereupon pierced at three places with an awl a hole being made in each nostril and one hole between them. A cord of dum palm leaf is thereupon drawn through these three holes so that the nostrils are firmly closed, and the animal can consequently breathe only through the mouth. It is said that a she-camel which has carried this bandage for one day will be fond of its calf and will allow it to suck so that milking can be done. 234 [412]

Milking of she-camels is usually done twice a day, early in the morning and very late in the evening. In Ayr certain Tuareg milk their she-camels several times during the day, as the animals generally graze close to the camp and frequently come to the tents to see their calves. Milking between the two proper milking times may also be done with other domestic animals in Ayr if milk is needed for some purpose or other during the day, but it is practised particularly with she-camels, as milk gathers in the udder of these animals very quickly after milking.

Milking of she-camels is done by two men standing at the sides of the she-camel and leaning their heads against the animal (Fig. 36). One of the men holds the large wooden milk-bowl *akabar* (Figs. [462] [415] 37-38)

[Text continues on p. 61]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

●283
★233

Fig. 40. The *témdit* rope for tethering small camel calves. The rope is plaited from leaves of the dum palm *tagayt* (*Hyphaene thebaica*) and falls into two parts: The short rope to be noosed around the calf's one foreleg and known as *teserrefut* is fastened to the long rope (*témdit*) which has a loop for the tethering peg. The whole system is known as *témdit*. Ayr, the *Imezzureg* tribe. Dimension: ca. 1.09 m long. (N. M. G. 6660).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

37–38) and milks only with one hand, but the milk-bowl may also be held by a woman or a boy so that both milkers have two hands free. If men are absent from the camp, milking may be done by women though properly this is the task of grown men. Certain she-camels are very difficult to milk so that milking should be done as quickly as possible. If a she-camel is very restless and therefore difficult to milk it is customary to bend up its right foreleg and attach it in this bent position to its left foreleg before milking is done. This method is known to the Ayr Tuareg by the term *ésemmetil* (cf. Fig. 35).

The Tuareg have various devices to prevent camel calves from drinking more than their proper share of milk. In Ayr and also among the Ahaggar Tuareg of the Tamesna region it is common to keep the young calves tethered by means of a particular cord (*témdit*) fastened to the calf's forelegs (Fig. 39–40). The calf is not allowed to follow its mother during grazing, and in the night when all she-camels rest in the camp they are kept lying on the ground so that the calves cannot suck them. When young calves are tethered in the camp they are fed on fresh annual plants collected for them by the Tuareg. When calves grow older and plant food constitutes their most important nourishment,

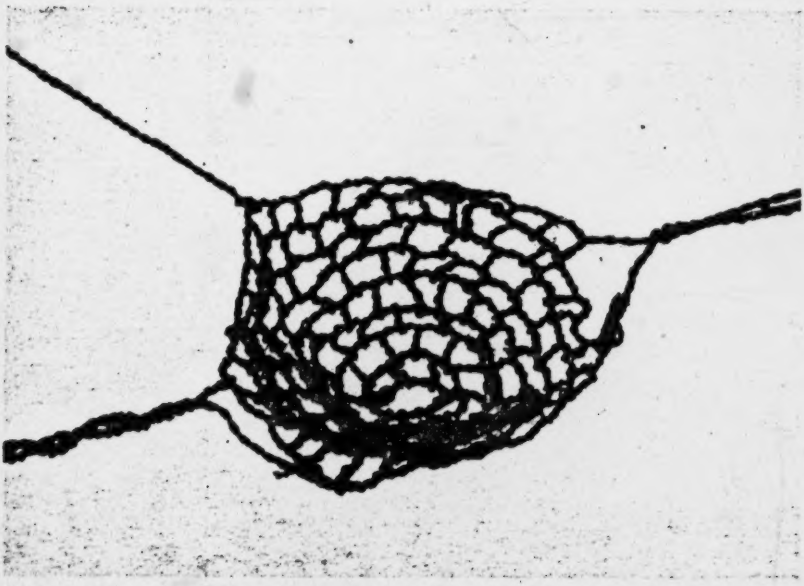

Fig. 41. Plaited pouch (*abeğu*) to prevent the sucking of camel calves. It is made of goat's hair, and it has three cords for attachment to the hind part of the she-camel so that the pouch covers the udder. Ahaggar, the *Ağuh-en-tehld* tribe. Dimension of the three cords: 1.19, 1.05, and 0.97 m. (N.M. G. 5198).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*233
286
283
284

Fig. 42. She-camel provided with the plaited pouch (*abegu*) which covers its udder. The pouch is attached as follows:— A cord is tied around the body in front of the animal's hump while another cord runs along the back at both sides of the hump to pass under the tail. The three cords which form part of the pouch are tied to the tail cord in front of the hind thighs and at the tail. To milk the camel carrying a pouch around its udder the hind pouch-cord fastened at the animal's tail is untied. Tasilé-n-Ajjer.

[234]

*233 they are hobbled by means of a cord (*téffart*) attached around their forelegs (p. 72, Fig. 45b–e) and are kept away from the mother animals during grazing in day-time. In Ahaggar as well as elsewhere in Northern Tuareg country suckling of calves are normally regulated by another method, namely a plaited pouch (*abegu*) which covers the udder of the mother camel, and the calf can thus be allowed to graze freely together with its mother (Fig. 41–42). This device is known to the *Kel Ferwan* Tuareg of Ayr as *ébeyembey*, but though they know it by name they do not use it. They say, however, that it is in use among the *Kel Ewey* of the Ayr Massif.

[284]

The plaited pouch just described also serves as a means of weaning half-grown calves, but there are other weaning methods, namely the following:— (1) *ikembar*, that is cuttings on the bridge of the nose as described above for cow calves (p. 51). In addition to these cuttings, the scars of which form small bumps, it is common to cut the calf also under the chin, the visible result of such a cut being a hanging patch of skin. This method is known both among the Northern Tuareg and in Ayr, and it is, I believe, nowadays carried out mainly for aesthetic reasons as the bumps and the hanging patch of skin adds, in Tuareg opinion, to the beauty of riding camels (Fig. 43). In fact, the cut made under the chin does not seem to hurt a sucking calf, and this cut is not made on cow calves (cf. Fig. 30). – (2) A method which is described by Cauvet from the oasis of In Salah may perhaps also be known to the Northern Tuareg though I have not recorded it. It consists of a thorn put into a patch of skin cut loose on the

[114]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

283
824
237
233

Fig. 45 a–e. Hobble-ropes for camels.

a. The *aseyus* rope to be tied around the foreleg of a camel to keep it lying down. This rope is made of goat's hair. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension of the stick 0.128 m (N.M. G. 5195).

b. Hobble-rope (*téffart*) made of dum palm leaves. Ayr, *Kel Ferwan* Tuareg. Dimension: 0.43 m. (doubled). (N.M. G. 6609).

c. Hobble-rope (*téffart*) made of raw ox-hide. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension: 1.03 m. (N.M. G. 5196).

d. Hobble-rope (*téffart*) newly-made of date palm bast. Ahaggar, Tamanrasset. Dimension: 0.60 m. (doubled). (N. M. G. 5197).

e. Hobble-rope (*téffart*) made of goat's hair. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension: 1.16 m. (N.M. G. 5194).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

137
233*
552

Fig. 46. A resting she-camel with the colour name *tawinaḳ*. The colour term of the young she-camel standing in the back-ground is *ténilt*. Ayr, the *Imezzureg* tribe.

In Ayr the Tuareg do not 237
use camel's hide in their crafts, but give it to the blacksmiths who use it for lashing, or to people 564
who manufacture beds from ribs of palm leaves (cf. Fig. 257). The Northern Tuareg use camel-skin 352
for the manufacture of a few household implements and also use it for lashing (cf. p. 84, 110, 222, 824
270 f. & Figs. 70, 86, 132a–b, 161a–d, 162, 213). But even in Ahaggar and Tasilé-n-Ajjer the skin of camels is little used compared with the skin of goats, sheep, and barbary sheep.

When employed in craft, camel's hide is normally used raw and unprepared after soaking in water, 281
but the Ahaggar Tuareg say that for certain purposes the hide is treated with salt. In literature there 114
are many statements about the tanning of camel's hide. Thus it is stated by Cauvet that the hide is tanned with plant material in Algeria, and Cauvet also quotes Duveyrier's statement that the Northern Tuareg tan camel's hide to use it for tents and various other implements (Cauvet 1925–26, I, p. 714 ff.). I very much doubt the correctness of this, as all Tuareg asked about it have stated that the hide of camels is not fitted for proper tanning. Camel's hide is therefore of very limited use to the Tuareg, and the same is the case with camel's hair or wool. Tuareg camels in Ayr have very little wool, and 237
among the Northern Tuareg most animals have less wool than Arab camels of the Northern Sahara. The Northern Tuareg pluck a little wool with the hands or cut it off with a knife. It is spun into cords 283
to be used for certain minor objects, notably for the manufacture of the plaited pouch (*abegu*) to prevent the suckling of calves (p. 62, Fig. 41) and for the particular cord (*asaṛun*) tied around the foreleg of camels to keep them in a reclining position (p. 72, Fig. 45a). Mixed with goat's hair the wool is 286
also used for a kind of primitive weaving (p. 265 ff., Figs. 209a–b).

Camels are very important to the Tuareg as pack-animals for the caravan expeditions which will 492*
be mentioned in a later chapter when other means of subsistence have been described. 484

In the past camels were also extremely valuable as riding animals on raiding expeditions which 492*
721

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*233
283
*492

Fig. 47. The *akala* rope noosed around the lower jaw of a pack-camel and prevented from loosening by the insertion of a small stick. Ayr, *Kel Ferwan* Tuareg.

*492 played an important part for all Tuareg. Raiding expeditions were carried out to gain all kinds of
721 booty, but camels were the main objective, and it was difficult to carry off other kinds of domestic animals over long distances. Thus camels were the main cause of raiding and also the means by which
721 raiding expeditions were carried out. In Ahaggar large scale raiding stopped long ago with the advent
175 of the French at the beginning of our century, though it recovered again during the revolt of 1916–17. This was also true of Ayr, but it seems as if raiding in and around this Massif continued still later
685 (cf. Rodd 1926a, p. 187 ff. & Buchanan 1921, p. 209 ff.). Nowadays raiding has ceased everywhere among the Tuareg, but theft of camels has been on the increase in the south. There are many camel thieves among the Ayr Tuareg, for it is very easy to steal grazing camels during the night and to lead them to some distant market and sell them. The Tuareg claim that in pre-European times there were
[640] hardly any camel thieves in Ayr as such persons were punished very severely. They say that the theft of camels became normal with the French who have great difficulty in proving the guilt of thieves.

[text continues on p. 70]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

233*
283
492*

Fig. 48. Young camel with a halter (*amerur*) made from a rope of goat's hair. Tasilé-n-Ajjer, the *Kel Terrarit* tribe.

233*
492*

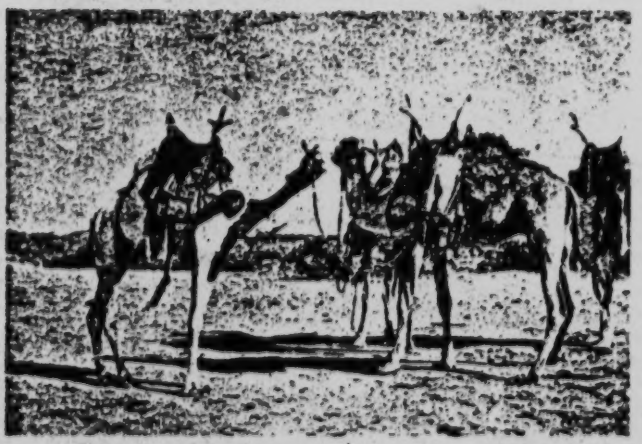

Fig. 49. Riding camels in Ahaggar.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*233 *492 should be remembered that she-camels possess less endurance than bull-camels and geldings on very long journeys.

*233 She-camels and the few bull-camels which are reserved for breeding graze free and unhobbled; pack and riding animals are hobbled with a short rope between their forelegs during grazing. Both in Ayr and among the Northern Tuareg this hobble-rope is known as *téffart* (Fig. 45b–e). In Ayr it is generally [137] rather short because pasture is rich in the valleys where camels are also difficult to find because of the dense vegetation and because the animals frequently leave no trace. In the two groups of Northern Tuareg, vegetation is on the whole more scattered and camels have to wander more freely to find suitable fodder. The Northern Tuareg therefore in general use a somewhat longer hobble-rope, and they find their animals again without much difficulty because of the open country and because the camels leave foot-prints which differ from one animal to the other. When the camels are out of sight they are easily traced by the Tuareg who know their foot-prints. The Ayr Tuareg make their hobble- [283] ropes from dum palm leaves twisted together, while Northern Tuareg use bast of the date palm trees, which latter material is considered the better for hobble-ropes. If hobbled camels are left to themselves for longer periods the Northern Tuareg also use ropes made of goat's hair or ox hide as such ropes do not so easily break (cf. Fig. 45c, e).

[171] Arab pastoralists of the Northern Sahara do not always let their camels graze during night but frequently keep them lying in front of the tent after darkness; the animals are then tied around one of their forelegs by means of a short rope provided with a small stick. The same device (*asaṛum*) is also known to the Northern Tuareg (p. 67, Fig. 45a), but it is unknown to the Ayr Tuareg who use for this purpose a short rope (*arenfud*) without a stick and made from twisted dum palm leaves. The Tuareg may keep camels in the camp during night and then tie one of their forelegs with the ropes mentioned. This is done with she-camels which rest close to their calves at night time, and in Ayr also with most camels during the short period of the year (*akasa* and the beginning of *ṛarat*) when dew falls heavily upon annual pasture, for camels may contract stomach diseases from eating wet annual plants. In Ahaggar I have noted that camels are attached in the way mentioned and kept in camp during the night in order that they might not eat noxious plants growing close to the tents (cf. p. 124). However, camels normally graze during the night and do not sleep much. On the very long trading expeditions they eat almost exclusively through a few hours of the night. When a camel sleeps it stretches out its long neck in a slightly curved position and its head rests upon the chin (cf. Fig. 46). It sleeps very lightly, and the Ahaggar Tuareg say that a boy who is able to creep under the neck of a sleeping camel and not awake it will never loose his way in the desert.

*492 Pack-camels of a Tuareg caravan walk one behind the other in a long line. Every pack-camel is provided with a rope noosed around its lower jaw, the loop being prevented from loosening by the [283] insertion of a small stick (Fig. 47). This rope is known as *akalu* to the Ahaggar Tuareg, who use ropes made from twisted pieces of date palm bast, while the Ayr Tuareg make similar ropes from dum palm leaves. The loose end of the *akalu* rope is attached to the pack-camel walking in front, fastened either to its luggage or, more frequently, to its neck around which camels of a caravan carry their hobble ropes.

*233 *492 True halters made from goat's hair or from palm material are used mainly for young untrained

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*492 fixed with a rope running under the tail and/or a rope around the camel's chest. The *ilaki*-saddle is [184] unknown to the Ayr Tuareg, but I have seen it in use among Arab traders living at Iferwan of Northern [171] Ayr. It is by far the most common type of pack-saddle in both groups of Northern Tuareg.

Another type of pack-saddle named *tebeyut* or *tkhawit* corresponds to the *berej* saddle of the Arabs. It is used occasionally by the Northern Tuareg, but I have only seen it among the *Kel Ajjer*. The saddle-frame is made from date palm ribs and consists of two cross-bars connected with each other by two crossed sticks at both sides. One of the cross-bars rests in front of the animal's hump, the other behind. The frame is lashed together by means of strips of raw camel-hide and is fastened to [283] two pads of palm bast as can be seen from the photograph Fig. 57. As far as I know this saddle-type, [563] like the type above-mentioned, is manufactured by palm-growing agriculturists of the oases. This saddle type seems to be unknown among the Ayr Tuareg.

The proper pack-saddle used among the Ayr Tuareg is known to them as *aruki*. It consists of one [285] wooden arch lashed to two flat boards (Fig. 58). These two sideboards are attached to two pads made from hay stuffed into tubular pieces of dum palm matting. The two pads or mat cylinders are fitted on each side of the camel so that the wooden arch rests in front of the hump. But there is also a rear pad consisting of a stuffed-skin-bag laid over the camel's back behind the hump and attached to the wooden arch by means of cords. The loading cords bear on this stuffed skin-bag and on the mat-[564] cylinders in front of the wooden arch. The wooden arch is manufactured by blacksmiths, while the side pads and rear pad are made by the Tuareg. The saddle is not generally fixed to the camel by means of girths or cords. The place of origin for this saddle-type seems to be Ayr. It is used also among the *Kel Geres* Tuareg, and it seems as if related saddle-types occur elsewhere in the south (cf. p. 311).

*492 Transportation bags of various types are used for camel loads, but the very large bags woven from 415 a mixture of goat's hair and camel's wool so typical of northern Arab pastoralists are not in current use among the *Kel Ahaggar* and the *Kel Ajjer*, and are entirely unknown to the Tuareg of Ayr. The [563] Northern Tuareg generally use bags made from the skin of barbary sheep, or bags made from date palm bast by the sedentary agriculturists of Tidikelt (cf. Fig. 59). In Ayr the Tuareg normally use transportation bags of plaited dum palm leaves.

The ideal load of a camel consists of two bags forming a total weight of up to 200 kgs for a very strong animal. The two bags, which together form one load, are each provided with two short loading loops. They are known to the Ahaggar Tuareg as *elrerwet* when bags are woven, as *tadeknert* when the bags are of skin. The loading is done as follows:— The two bags are lifted up and supported against the sides of the recumbent pack-camel by two men who put the loops of one bag into those of the other and insert between them two little sticks, known in the north as *tihdad* (sing. *tehedit*). To unload the camel all one has to do is to pull out the two small sticks inserted between the loops, [171] and the two bags fall to the ground. This same system is also used in Ayr, and, I believe, among all camel-breeders of North Africa. - To secure the load in a fixed position it is very common to surround its two halves with a rope (*takhamit* in Ahaggar), which is laid over the saddle-frame before loading and another rope around the luggage and the belly of the pack-camel is also used if considered necessary.

*492 When camels are taken to the camp from pasture, they are sometimes mounted without a saddle

[text continues on p. 78]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

that it is manufactured by pastoral Tuareg of these regions and not by blacksmiths, though the latter may also make such saddles for their own use. The wooden structure is made of two cross-bars, which are natural prongs fashioned with knife and axe, and these two cross-bars are lashed to each other at their lower ends, or are connected with each other by means of two sticks crossing each other at the two sides. A wreath of slender roots of *afagag* (*Acacia Raddiana*) covered with a network of dum palm rope may serve as a saddle seat, which can also be covered with a piece of matting plaited from the leaves of the dum palm tree. This very simple saddle may perhaps be considered the prototype of the more developed riding saddles of the *térik* and *tahyast* types.

All the above-mentioned types of riding saddles are placed in front of the camel's hump and rest upon two to four saddle cloths, the number depending upon their quality and also upon the nutritional condition of the animal. Two saddle-cloths are considered enough for a fat camel while four should be applied to a very thin one. Saddle cloths are frequently called *ésatfar* (Ayr) or *asetfer* (Ahaggar), but this name is in fact used for everything placed upon the back of an animal to protect it against galling from [redacted]/or the saddle. Saddle cloths for camels are properly termed *éselis* (Ayr) and *ameslak* (Ahaggar). Both among the Northern Tuareg and in Ayr saddle cloths are generally made of cotton, but they are also made from dum palm matting and a piece of leather among the Ayr Tuareg (Figs. 66–67). The riding saddles are fixed to the camel by a single girth known as *ahayif* (Ahaggar) or *azaw* (Ayr). In the north such girths are normally made from goat-hair while the Ayr Tuareg use plaited leather (goat-skin). Girths in both regions are frequently furnished with a very large tassel hanging down from the right side of the camel (Fig. 69). On rare occasions when the Tuareg ride their camels with all possible speed, e.g., at the annual camel races organized by the French administration, the riders often secure the position of their saddles by means of a long cord (*ihwéwerren* among the Northern Tuareg) tied around the hind part of the camel as shown by the photograph Fig. 68.

The camel rider sits in the saddle cross-legged with his feet resting upon the camel's neck. To accelerate the speed of his riding animal he pushes one of his feet against its neck in step with the rocking gait peculiar to camels. A whip (*alekkoḍ*) also belongs to the equipment of the rider. Most whips have a single lash made from a twisted strip of hide, but whips provided with two lashes of hide attached to a wooden handle are also found and are common in Tasilé-n-Ajjer (Figs. 70a–b). The whips used in the north are said to be made from camel's hide soaked in water; the raw hide is twisted and kept in this position until it is dry. The Ayr Tuareg say that camel's hide is not well fitted for whips, which among them are manufactured from the raw hide of a newly-killed ox. A piece of this hide is twisted and left to dry as in the north. The handle of the one-lash whip is made of cotton wrapped around the upper part of the lash and covered with coloured goat-skin.

The Ahaggar Tuareg have a particular implement to hasten the speed of riding camels. It is described in literature notably by Foucauld. It consists of a slender iron rod 0.35–0.50 metres long, fixed into a wooden handle. It has a small crook much like that of a staple and is used for scratching the animal and thus to incite it to greater speed. It is called *azulla*, or *asekreḍ* (Foucauld 1951 52, II, p. 856 & IV, p. 1960). I have never seen this peculiar implement among the Tuareg.

A camel rider's equipment comprises various types of skin bags of which the most common is a

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*492
237
●283
284

Fig. 63b. cf. Fig. 63a.

*492 4/5 huge saddle bag known as *ejjebira*, manufactured exclusively by the sedentary people of Agadez, the *Imeggedezen* (Fig. 72a). Other bags are often used by riders and some of them will be mentioned in the description of skin and leather work.

[283] An important part of the rider's equipment is the drinking bowl (*tamennast*) made from metal and attached to the saddle pommel with a plaited leather cord (*témeirek*); it is particularly common *492 among the Northern Tuareg (Fig. 71). The Tuareg also possess a great many objects which serve [531] exclusively as ornaments for riding camels. The Northern Tuareg adorn their animals with a collar (*tahawt*) made from fine cords of goat's hair, while the Ayr Tuareg use another type of collar called

[Text continues on p. 88]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*492
P24
283
284

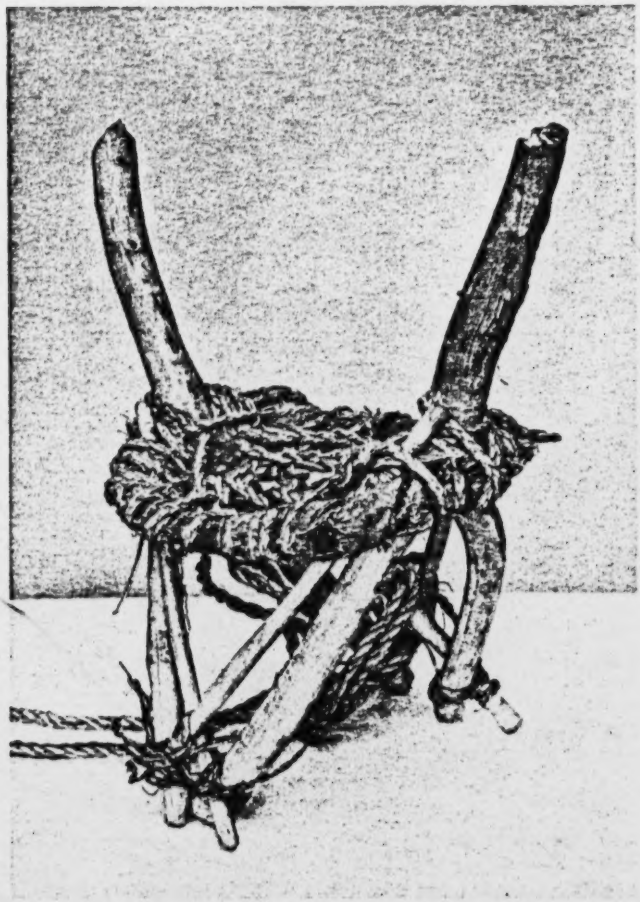

Fig. 64. Riding saddle of the type known as *kontorki* or *delobi*. It is made of two forked boughs of *tamat* acacia (*Acacia flava*) connected with sticks and the seat. The latter is made of slender roots (sing. *idkéwi*) of the afagag *acacia* (*Acacia Raddiana*). These slender roots are bent into a circle, are covered with cotton or similar material, and a kind of net is made of dum palm rope within the circle. Ayr, *Imeggedezen*. Dimension: 0.49 m high. (N.M. G. 6656).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

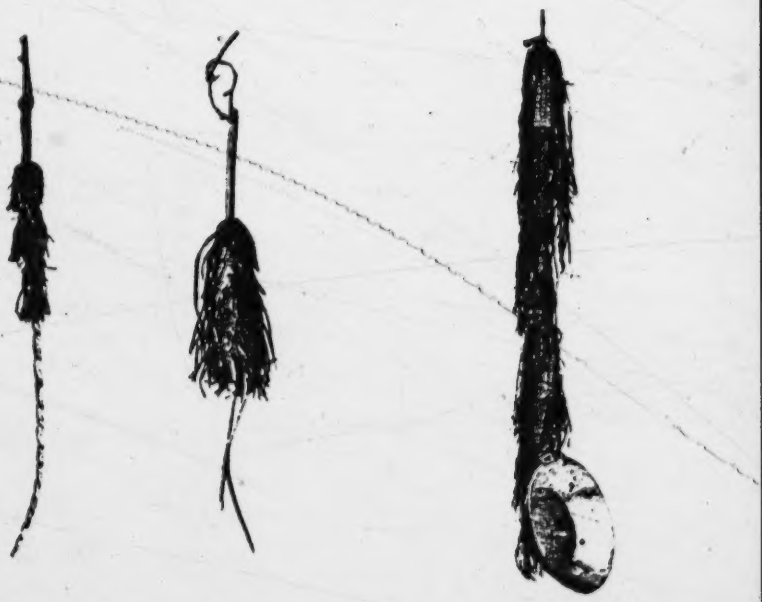

Fig. 70a–b. Tuareg camel whips (*alekkoḍ*, pl. *ilekkoḍ*).

a. Whip with a single lash. Collected in Ahaggar by Olufsen. Dimension: 1.08 m long. (M.N. G. 1.138).

b. Whip with two lashes. Tasilé-n-Ajjer, the *Urayen* tribe. Dimension: 0.845 m long. (Author's collection).

Fig. 71. The drinking bowl (*tamenaust*) made from tinned brass and fixed to its ornamented leather cord (*témetrek*) by means of which it is attached to the saddle pommel (cf. Fig. 49). Ahaggar, the *Aguh-en-tehlé* tribe. Dimension of the bowl: 0.258 m in diameter (upper part). Dimension of the leather cord: 0.685 m long. (N. M. G. 5287).

donkeys, but, as in the North, they sometimes mount the riding camels of men sitting across the animal behind the saddle.

The Tuareg take a keen interest in the adornment of all objects used for riding camels. The richly decorated saddles and the ornaments of the riding gear express the particular value attached to the animals used for riding. But Tuareg interest in camels is perhaps more clearly understood, when we consider their rich camel vocabulary.

The Tuareg have one word which can be used for any camel regardless of its sex and age, its colour, and all other particular qualities. This word (*amaġur*, pl. *imuġar* in the northern dialect) does not seem to have its equivalents in vocabularies of other domestic animals which collectively are referred to by means of a sex term of adult animals (e.g., *ulli* = "goats"). The word *amaġur* (pl. *imuġar*) is used in conversation, but it is heard less frequently than camel terms which have a very definite meaning.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

Fig. 85. Tuareg breaking in a young newly-caught donkey. The donkey is prevented from escaping by means of hobble-ropes (*téffart* and *amahus*) and is also tethered to an acacia tree. Ahaggar, the *Aĝuh-en-tehlé* tribe.

skin (Duveyrier 1864, p. 231). It is most possible that the taboo on donkey's meat and skin is due to Islam – meat of donkeys and horses is considered unlawful by the Koran. Leo Africanus states that the nomads of the Sahara eat meat of donkeys which they catch in snares (Leo Africanus II, p. 944).

The wild donkeys, or asses, of Tuareg countries are very shy, and it is most impressive to watch a herd of some twenty animals galloping over the desert plains. Because of their shyness they are often hunted much in the same way as game animals. Among the Northern Tuareg they are caught in the spiked wheel-trap, are run down by men mounted on camels, or are driven into closed river valleys surrounded by steep rocky walls. In certain parts of Ayr wild donkeys can be caught in the same way – notably in valleys of Mount Tamgak (Northern Ayr) and around Anu Mekkeren (Central Ayr) – while the method of running down wild donkeys with riding camels is said not to be practised. Whether the so-called spiked wheel-trap is used for catching donkeys or not, I do not know, as the Ayr country is very extensive and inhabited by Tuareg of different origins. The Tuareg belonging to the *Kel Ferwan* group claimed that it was not used for donkeys or asses for which they have a kind of snare called *tuṛunt*, which is also the name used among them for the noosed rope connected with the spiked wheel-trap. The snare used for donkeys is said to consist of a rope some twenty or thirty metres long and plaited from dum palm leaves. The rope is noosed at one end to be used as follows:— The loop is laid out where donkeys come to drink, the whole rope being covered with sand. The hunter lies hidden behind some natural object, a rock or tree, and when a donkey puts one of its legs within the loop he pulls the rope. It is said that this method is also sometimes used for other domestic animals which have gone wild, as happens frequently with oxen. But it is never used for hunting proper game animals such as gazelle, antelope, and barbary sheep. To catch domestic animals which have gone

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

wild the Ayr Tuareg also know another type of snare, or rather lasso, which is also known as *tuyuni*. It consists of a long rope noosed at one end, but the loop in this case is thrown against the animal by means of a short forked stick. The *Kel Ferwan* Tuareg say that this type of lasso is not widely found among them, and claim it is typical of and traditional for the pastoral Fulani, who use it to catch cows which are difficult to approach.

The wild donkeys caught for domestication are young animals, for very old ones cannot be tamed. When an animal is caught by one of the above mentioned methods it is beaten a heavy blow between the ears so that it falls unconscious to the ground. It is thereupon given a rope around its mouth, for wild donkeys are fierce and have a dangerous bite, and is also tied with ropes around its legs so that it cannot run. When the animal comes to after the blow it is led to the camp where it is tethered. It remains tethered and fitted with hobble-ropes in the camp for one or two months during which period it gets a very brutal treatment. It is trained for riding by the men who mount it daily during this period of training (cf. Fig. 85) until it can be ridden as freely as domestic donkeys. The Tuareg say that not all donkeys survive the heavy blow on the head but that most of them do.

Donkeys constitute the important riding animal of all vassal women, and there are also some men of the true vassal class who ride donkeys though most of them have riding camels. Donkeys are also extremely important pack-animals. They are used by most Tuareg for the transportation of tents and

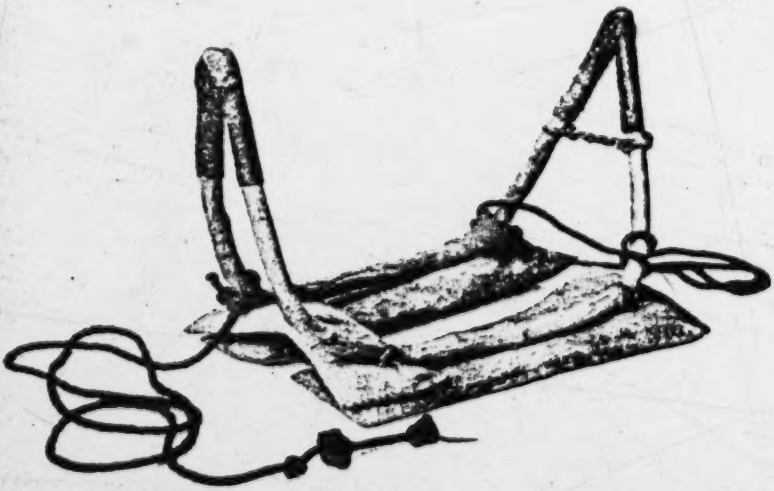

Fig. 86. Donkey saddle (*arwka*) of the type described in detail in the text (cf. p. 110). It is fixed to the animal by two cords of goat's hair: the girth (left), the cord passing under the tail (right). Ahaggar, the *Dag Rali* tribe. Dimension: 0.585 m long, 0.360 broad. (N.M. G. 5246).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

232
283

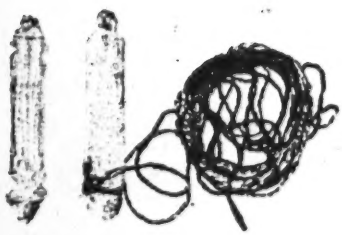

Fig. 92. Wooden splints (*tafasast*, pl. *tifesasin*) applied to broken legs of sheep and goats by means of a long thin cord of goat's hair. Ahaggar, the *Dog Rali* tribe. Dimensions of wooden splints: about 0.12 m. (F.M. 282).

232 (2) Operation with a knife. Such operations are often very simple. Thus I have once seen sheep with swollen throats and ears which were scratched with a knife to let out some water-like pus, but I do not know the name of this disease. The knife is used for many different operations some of which have been mentioned above. It is also used for bleeding which plays a great part in Tuareg veterinary practise. Bleeding is applied to humans and to domestic animals as a treatment for various diseases. The Tuareg may bleed individuals and animals bitten by snakes or stung by scorpions, but bleeding is used for many different diseases, as the Tuareg believe that these can be removed away with bad blood which is considered their cause. Bleeding is practised with camels. Thus in summer camels are frequently bled because they get slow and tired owing to *azni* (*ahni*), that is congestion due to heat-apoplexy, and a she-camel will normally be bled two or three hours after it has brought forth a calf. I frequently attended the bleeding of camels among the Ayr Tuareg where the method is as follows:— The camel is forced to stand upright while its head is turned downwards by a man (or a woman) who grasps the head firmly at the upper lip with one hand and pulls at a rope fixed to the animal's lower jaw with the other. A rope is tied around the camel's neck close to its chest so that the neck vein can contain as much blood as possible. The neck vein in this way will swell with blood particularly close to the animal's head at a place known to the Tuareg as *abayor*. A slice about two centimetres long is cut in this place with a small sharp knife, and immediately blood will flow from the neck vein in a thin but powerful squirt. Shortly after bleeding has started the rope tied around the animal's neck is loosened, but blood is allowed to flow for several minutes, and I believe that at least two or three litres of blood is tapped. When the operation is to end the animal's head is raised, the skin around the wound is pressed together with two fingers, and bleeding immediately ceases. Once blood has started to flow from the camel it does not protest at the operation which is illustrated by the photograph Fig. 93. When a camel has been bled it will normally rest for a few hours before it starts eating again. When Tuareg get lost in the desert and lack water, they bleed their camels and

Hunting

For the pastoral Tuareg hunting is not an important occupation, and nowadays it is practised mainly by those few Tuareg who possess rifles or guns. Traditional hunting methods are thus of far less consequence than in the past, but some of them are very interesting and most significant for a historical analysis of Tuareg culture.

AHAGGAR

Northern Tuareg areas are not very rich in game. In Ahaggar the main types of game are the gazelle (*ahenkoḍ*, fem. *tahenkoṭ*; *Gazella dorcas* sp.) and the barbary sheep (*uḍad; Ammotragus lervia*). The big gazelle (*énir; Gazella dama permista*) and the addax antelope (*amellul; Addax nasomaculatus*) are very rare; they are occasionally seen in the plains outside of the mountains. The ostrich (*anhél*; *Struthio camelus*) was very common in the past, but is now exterminated.

The small gazelle is rare and shy within the Ahaggar Massif, while fairly abundant and comparatively easy to hunt with a rifle in the northernmost massifs and their surrounding plains. Of seven camps visited in Ahnet 1954, gazelle hunting was engaged in by the members of two households, and I estimate that they killed one or two gazelles every week. In most camps of the Northern Tuareg there are no true gazelle hunters, and when a rare gazelle is killed its meat is easily eaten in one day by the members of a single household – in addition to three or four pounds of wheat-bread or millet-porridge. Gazelle skin is of little practical value to Tuareg craft. It is not generally used for the manufacture of important domestic articles such as water bags and containers for milk and butter, but it is suitable and much esteemed for certain types of decorated leather work and for fine leather cords, e.g., necklaces for amulet cases, reins for riding camels.

Barbary sheep are extremely shy, and they live mainly in inaccessible mountains. They are still fairly common in certain isolated parts of the mountains, but they were more numerous in the past when hunting was practised without rifles.

The Tuareg estimate that the amount of meat obtained from two gazelles corresponds to the meat of one grown goat, while a big barbary sheep provides as much meat as that of four goats. Meat of barbary sheep is better suited for drying than meat of other game animals, and the thick hide of these animals is valuable for the manufacture of tents and for large bags used for the conservation on journeys of dates, grain, flour, and the like. The horns of barbary sheep are used as butter containers (Fig. 165), and some Tuareg add the powder of crushed horns to butter before heating it (cf. p. 222). Barbary sheep are of greater economic value to the Ahaggar Tuareg than other types of game, and

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

butter in Ahaggar, and butter reserved for greasing the hair is frequently kept in a large horn (*isek*) of barbary sheep (Fig. 165).

The Ayr Tuareg make butter (*wiji*) in much the same way as the Northern Tuareg. For churning they use a skin bag (*anwar*), or a calabash (*azeru*), and they say that they prefer skin bags in winter, and calabashes in the hot season. Butter is heated or boiled immediately after churning, but the Ayr Tuareg do not add parts of plants, date flour, or the like. In Ayr butter is not churned as regularly as in the north. It is used mainly for cooking meat of thin animals, for a sauce which may be used for millet porridge instead of milk (cf. p. 243 f.), and for greasing the hair. Among the Northern Tuareg butter is added to many different dishes and particularly to bread, which is eaten almost daily by many people. In years of drought the Ahaggar Tuareg get their butter from Ayr (cf. p. 212, 215), and the Ayr Tuareg make much butter for export in such circumstances. They churn most butter from cow's

Fig. 154a–c.

a. Wooden funnel. Made by blacksmiths. Ahaggar, the *Dag Rali* tribe. Dimension: 0.146 m high. (N.M. G. 5203).
b. Funnel consisting of a piece of calabash which derives from the south. Ahaggar, the *Dag Rali* tribe. Dimension: 0.131 m high. (N.M. G. 5202).
c. Wooden funnel with a strap of cord of goat's hair. Made by blacksmiths. Ahaggar, Olufsen's collection. Dimension: 0.175 m high. (N.M. G. 1.130).

All wooden funnels are cut from wood of the *tabarakkat* tamarisk (*Tamarix aphylla*).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

415*
237
283

Fig. 161a–d. Butter containers of the *tahattint* type made from camel's hide.

a. Provided with a leather stopper and a cord of goat's hair. Dimension: about 0.24 *m* high. Ahaggar, the *Aǧuh-en-tehlé* tribe. (F.M. 113).

b. Made from camel's hide covered with goat-skin leather. The leather stopper is seen to the right. The handle consists of cords made from goat's hair. Ahaggar, the *Aǧuh-en-tehlé* tribe. Dimension: about 0.30 m high. (F.M. 91).

c. Large container with four sticks inserted around the opening and a handle of rope made from goat's hair. Ahaggar, the *Dag Ilali* tribe. Dimension: about 0.36 m high. (F.M. 253).

d. Large container with a wooden stopper. Ahaggar, Olufsen's collection. Dimension: 0.60 m high the stopper included. (N.M. G. 1.45).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*4/5
237
283
251

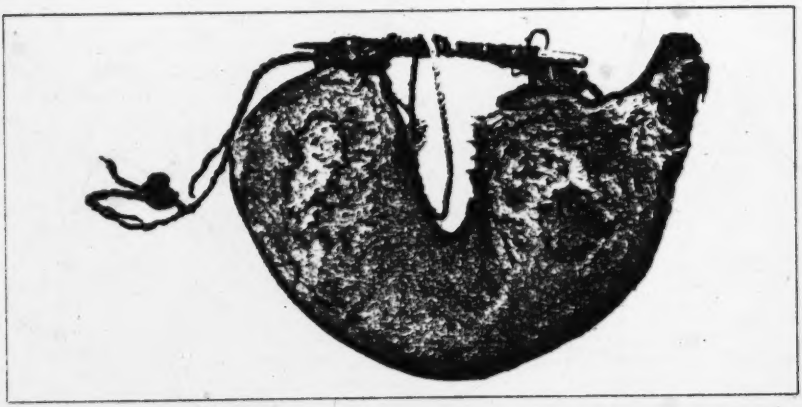

Fig. 162. Very large butter container (*arəkko*) made from the neck-hide of a camel. It is provided with a wooden handle wound with hide and with cords made from goat's hair and bast of *abarʒ* (*Acacia Raddiana*). Similar containers are also used for the conservation of cereals. Ahaggar, the *Dag Rali* tribe. Dimension: 0.62 m long. (N.M. G. 5201).

Fig. 163a–b. Calabashes used for storing butter in Ahaggar but introduced from the south (Ayr).

a. Calabash (*azenu*) with a wooden stopper fastened to a leather strap and provided with a handle of cord made of goat's hair. The wooden stopper is called *azhay*. Ahaggar, the *Agab-en-tehli* tribe. Dimension: 0.620 m high. (N.M. G. 5206).

b. Calabash (*tazenut*) with a handle of white goat's hair. Used for transportation of butter on journeys. Ahaggar, the *Dag Rali* tribe. Dimension: 0.175 m high. (F.M. 252).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

Fig. 165. Horn (*ísrk*) of barbary sheep used for storing butter for greasing the hair. The opening is closed with a piece of date palm bast (*asan*), and the edge is pierced with a glowing awl (*ándef*) for the insertion of a cord of goat's hair by means of which the horn is attached to the tent ceiling. Ahaggar, the *Dag Ilali* tribe. Dimension: 0.30 m long. (F.M. 236).

the Tuareg in the past. I believe that they were made by blacksmiths or imported from the north. Pastoral Tuareg do not manufacture earthen pots which are obtained from sedentary people. The cooking of meat is perhaps not a traditional method of food preparation to the Tuareg, though they seem to have used cooking pots for centuries.

A method of meat preparation undoubtedly introduced recently among the Tuareg, is that of spit roasting. Meat roasted in this way is known as *mechwi*, a word of Arab origin, and the Northern Tuareg have taken over the method from the Arabs. The *mechwi* method is also known in Ayr, where it has perhaps been introduced by French administrators who had learned to appreciate meat thus prepared during their visits among Northern Tuareg and Arabs. Pieces of sheep and goats and entire animals are prepared in this way (Fig. 174), and the meat should preferably be prepared with butter and red pepper before roasting.

The traditional Tuareg roasting method is to place entire animals (goats, sheep), or parts of them, under the hot ashes of the fire. This method is known to the Northern Tuareg as *abatul*, to the Tuareg of Ayr as *ébewil* (Fig. 175). This method of roasting meat is practised everywhere among the Tuareg, and it is on the whole similar to the method used for bread-baking described below (p. 238 f.).

Meat-roasting in the ashes is no doubt an ancient Tuareg method of food-preparation, and this also holds good for another method described in connection with the preparation of milk, namely food preparation by means of hot stones (cf. p. 221). The Ahaggar Tuareg prepare the stomachs of goats, sheep, and barbary sheep in this way, putting hot stones into the stomachs, while camel stomachs are boiled in a cooking pot and gazelle stomachs roasted in the ashes according to the *abatul* method mentioned above. These rules of food preparation seem also to be practised by the Ayr Tuareg, who put hot stones into stomachs of sheep and goats together with small pieces of meat. A stomach of goats or sheep prepared in this way, however, is given a final treatment in hot sand or in ashes close to the fire. The stomach of sheep or goats cooked with hot stones is known as *tarafa*, and a related word seems to be known also in Ahaggar (cf. Foucauld 1951–52, IV, p. 1583).

The Tuareg eat most entrails of their slaughtered animals. Entrails of camels are normally boiled, and kidneys of all animals are prepared in this way. Most entrails of goats and sheep (liver, heart, and lungs) are roasted on the embers or in the ashes, and in Ayr the Tuareg roast fat put into the abomasum (*tedeṛant*). The Northern Tuareg generally prepare liver and fat together in the following manner:— The liver is roasted upon the embers, is thereupon cut into small pieces which are wrapped

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

412
237
283
326

Fig. 171. Ordinary meat-knife (*elmusi*) of the type used among Northern Tuareg and Arabs. Its broken handle is mended with hide of barbary sheep sewn with leather thread. Ahaggar, the *Dag Rali* tribe. Dimension: 0.28 m (total length). (F.M. 249).
All knives are manufactured by blacksmiths.

wheat bread is eaten particularly during migrations and on trading expeditions, or in periods when butter is rare (Lhote 1955a, p. 262). This statement disagrees with my own experience. Wheat bread is an ordinary diet of many Northern Tuareg. Bread is also baked from barley and from certain wild seeds (notably *tawit*, *Chenopodium Vulvaria*; *éhéyefyef*, *Aizoon canariense*; *tullult*, *Aristida pungens*) and wild roots (*ahahel*, *Cistanche Phelypaea*), while millet and sorghum are considered less suitable for baking. Seeds are generally prepared for baking by grinding them into flour by saddle querns or handmills. In Northern Tuareg country there are two types of bread which have been introduced as a result of contact with Arabs or the Arabic-speaking *Harratin*. One type is named *elfetat* and is baked

262
[14]
[24]
282
[17]

412

Fig. 172a–b. Meat knives.
a. Knife (*ézegiz*) of Tebu type to be carried in its sheath around the upper arm. These knives are sometimes used in Ayr. Agadez. Dimension: 0.370 m. (total length). (N.M. G. 6620a–b).
b. Knife (*ézegiz*) of the double-edged type normally used in Ayr. The *Imezzureg* tribe. Dimension: 0.377 m (total length). N.M. G. 6665a–b).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

252

Fig. 175. Meat-roasting in the ashes – the method known as *abatal* (Ahaggar) or *dhewil* (Ayr). Ayr, the *Irawatan* tribe.

412
213

Fig. 176. Little mortar of the type known as *akahar*, or *takabart*. This type of mortar is used by pastoral Tuareg on their trading expeditions, and it is provided with a handle (*ayaw*) of cord (goat-hair) for suspension. Ahaggar, manufactured by a blacksmith of Tamanrasset, the *Afuh-en-tahit* tribe. Dimension: 0.23 m high, 0.16 m in diameter at the rim. (F.M. 111).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

206a–d). The ordinary axe (*taḍeft*) is used by all Tuareg who may also possess small adzes (*tat-tawet*), used mainly by women for the manufacturing of domestic implements such as spoons and milking bowls. These implements manufactured by Tuareg women are generally inferior in quality to those made by the blacksmiths, though certain noble women of the *Kel Ḍela* tribe make wooden milking bowls that are said to be superior to those of the blacksmiths. In Ayr, Tuareg women engage very little in wood-working, and the Ayr Tuareg are on the whole less skilled in crafts than are the Tuareg of Ahaggar.

Pastoral Tuareg are experts in rope making. Ropes made from various materials play an important part for the Tuareg for hobbling domestic animals, for fastening burdens transported on camels, as reins, for the erection of tents, and for a great many other purposes. Incidentally the Tuareg make substitutes for ropes in a very simple way. Thus if a man comes upon a camel which he wishes to take back to camp and has no rope or rein to lead it by he makes a lead from three or four pieces of palm leaf, or the like, attached to each other. It is stated by Maire that the Ahaggar Tuareg make simple

Fig. 204a–b. Earthen pots made by the sedentary *Imeggedezen* of Agadez.

a. A water jar with two spouts. It is known to the Ayr Tuareg and the Hausa-speaking *Imeggedezen* as *gelgelesi*. It is used by the latter people but never by pastoral Tuareg. Dimension: 0.30 m high. (N.M. G. 6635).

b. Earthen jar used for water and also for cooking. It is known to the Ayr Tuareg as *tḍyint* or *tiskin*, to the Hausa-speaking *Imeggedezen* as *tekuniya* or *tulu*. Dimension: 0.285 m high. (N.M. G. 6634).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

323
531
563

Fig. 205. Painted earthen pot (*tékawt*) manufactured by the professional potmakers called *Ikenawen*. Ayr, Agadez. Dimension: 0.32 m high. (N.M. G. 6636).

283
824 hobble ropes from straws of the *tulluli* grass (*Aristida pungens*) (Maire 1933, p. 62). For the manufacture of proper ropes the Tuareg may employ the bark of trees. Both in Ahaggar and in Ayr they use the bark of *Acacia Raddiana* (*abser* in Ahaggar, *afagag* in Ayr) for this purpose (Fig. 113). These ropes are made after much the same method as that used for the Ahaggar ropes of date palm bast (*asun*)

283
462 and those of dum palm leaves made in Ayr. Ropes of this kind are always made by men, who, when making ropes from date palm bast, proceed in the following way:— Pieces of bast are soaked in water contained in a receptacle. They are thereupon torn into small strips about 20–30 cms long. These strips are rolled and twisted between the hands, and are kept in this rolled position under the foot until sufficient numbers of strips are available for the rope to be made. The ends of two rolled strips are then placed between the first and the second toes, and the strips are twisted together between the hands. New strips are added and twisted in this fashion until a suitable length of two twisted rows of strips has been made. This length is thereupon stretched over one of the feet, doubled, and twisted between the hands. It is finally hammered with a stone while resting on another stone or upon the bottom of a large mortar which is frequently used for support. The Ahaggar Tuareg make their hobble ropes in this way (Fig. 207), and the Ayr Tuareg apply the same technique to ropes made from strips of dum palm leaves which are also soaked in water before twisting. Both in Ahaggar and in Ayr this method may also be used for the manufacture of leather cords (Figs. 43, 73a).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

412

Fig. 206a–d. Axe and adzes of the Ahaggar Tuareg.

a. The ordinary axe (*taḍeft*) which is found in all Tuareg camps. Ahaggar, the *Aṭab-en-tehli* tribe. Dimension: 0.572 m long; dimension of the iron blade: 0.157 m long, 0.053 m broad. (N.M. G. 5233).

b. *tastawt*, a small socket-shafted adze with knee-shaft. Adzes of this type are common in Tuareg camps. They are used mainly by women for wood-carving. Ahaggar, the *Aṭab-en-tehli* tribe. Dimension: 0.301 m long. (N.M. G. 5232). [322]

c. *tikadimt*, adze shafted by means of a piece of sheet-iron and nails. Ahaggar, blacksmiths of Abalessa. Dimension: 0.440 m long; dimension of the iron blade: 0.150 m long, 0.058 m broad at the edge. (N.M. G. 5864).

d. *tikadimt*, slot-shafted adze. Ahaggar, blacksmiths of Tamanṛaset. Dimension: 0.430 m long; dimension of the iron blade: 0.222 m long, 0.065 m broad at the edge. (N.M. G. 5865).

The axe and the adzes are all made by blacksmiths. [564]

The very best ropes or cords manufactured by the Ahaggar Tuareg are those made from goat's hair which is sheared with a knife by the women once a year in the hot season. These ropes are known to the Ahaggar Tuareg as *ihellumen* (sing. *ahellum*), while the proper term for a rope of goat's hair in Ayr is *araw*. But the Ayr Tuareg do not make such ropes as they have goats of the short-haired breed (p. 33). They obtain their ropes from the Ahaggar Tuareg. Ropes of goat hair are manufactured by women by the following method:— The mass of hair, known as *ẽhafilen*, is placed upon a piece of skin and is prevented from blowing away by means of a stone. The hair is then taken out in small quantities with the first and second fingers of the left hand to be spun upon a stick 30–40 cms long.

283 ● 237 233 438 462

[Text continues on p. 266]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

283
824
302

Fig. 207. Tuareg making a hobble-rope (*idfart*) of date palm bast (*azau*). Ahaggar, the *Kel Rezi*.

283
237

Fig. 208. The manufacture of a cord of goat's hair: (1) the hair (*dhaflen*) is spun around a little stick (*aseggeiem*). (2) The spun hair is trebled and twisted into a thread known as *tassarkit*, or *tassegit*, between two sticks (*iseggeiem*, sing. *aseggeiem*). (3) The finished cord (*ahellem*) which is made by trebling the *tassegit* thread. Ahaggar, the *Aguh-en-tehld* tribe. Dimension of the *aseggeiem* stick to the left: 0.41 m long. (F.M. 74, 120, 122).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

285
824
287
531

Fig. 210a–b. Two coiled baskets provided with lids.

[462] a. *takhalit*, basket plaited from pieces of palm leaves (*afum*) and reinforced with coloured leather (goat-skin). Manufactured by women of the sedentary *Kel Ger* in Tasili-n-Ajjer, bought from blacksmiths at Tamanrasset in Ahaggar. Dimension: 0.13 m high. (F.M. 227).

b. *adabus*, basket plaited from pieces of palm leaves (*afum*). It is ornamented with coloured leather thread and with woollen yarn. Ahaggar, blacksmiths at Abalessa. Dimension: 0.205 m high. (N.M. G. 5837a–b).

● 283 This stick, which is held in the right hand, is turned around its own axes while the hair taken out from the mass with the left hand is occasionally moistened with water or with spittle. The stick upon which the hair is spun is known as *aseggelem*. I have noted in Ahaggar that a length of 50–60 metres of spun hair can be made in about twenty minutes. Such a lenght of spun hair is trebled and attached to two sticks also known as *aseggelem* (pl. *iseggelam*). It is twisted together by two women each holding one of the sticks, and may be conserved for some time before it is finally made into a rope by further trebling and twisting (cf. Fig. 208). Certain cords to be used in connection with riding camels (e.g., reins) are not twisted in the above manner, but are plaited (cf. Fig. 51). The spun hair is used for the manufacture of certain objects without twisting (cf. Fig. 167a–b). Lhote states that the hair growing on the knees and neck of barbary sheep is also used for spinning (Lhote 1955a, p. 319).

[237] [286] 288 * [415] [114] The Northern Tuareg spin camel's hair or wool (*tedufi*) which is used for very few purposes (cf. p. 67). But camel's hair is sometimes mixed with goat's hair to be spun for thread used for a primitive type of weaving; true weaving is an unknown craft among the Tuareg while important to Arab pastoralists of the Northern Sahara. The Tuareg type of primitive weaving with spun hair is carried out with no other implement but the hand; it is used for small transportation bags known as *tirrar* (sing. *tirrerirt*), a word, according to Foucauld, derived from Arabic (cf. Foucauld 1951–52, IV, p. 1776) (cf. Fig. 209a–b). I have myself never had the opportunity to see how weaving of this type is done.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

A photograph illustrating a women making a bag from spun hair is reproduced by Lhote, who states that bags of this nature are rarely manufactured nowadays and are made exclusively by a few noble women of the *Kel Rela* tribe (Lhote 1955a, p. 319 f., pl. XV p. 384). This statement does not agree with information gathered by myself in Ahaggar, where I was told that bags were made from spun hair by Tuareg women of other tribes and notably by women of the *Iseḫḫamaren* class.

In Ayr spinning of cotton is performed mainly to obtain sewing thread, which is considered superior to European thread for sewing cotton clothes. To my knowledge most pastoral women do not spin their own cotton thread but buy it at the market of Agadez. However I have noted the existence of simple cotton bows in a *Kel Tédalé* camp in the northern part of the Ayr Massif. The occurrence of the simple cotton bow among the Ayr Tuareg should no doubt be viewed in connection with the use of this implement in the Western Sudan (cf. Lagercrantz 1950, p. 260 ff.) from where the cotton plant has also been introduced.

Coiled basket-work plays an important part with the Tuareg, particularly the Northern Tuareg who are experts in this technique which is related to sewing. A very primitive type of coiled basketry

Fig. 211. Basket (*ahegwegur*) plaited from date palm leaves (*aguni*). The handle is of date palm bast (*asuf*). Ahaggar, blacksmiths at Abelessa. Dimension: 0.38 m high. (N.M. G. 5839).

Text continues on p. 269

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

as *ahaja* (Fig. 213). Such tanning receptacles are made in the following way among the Ahaggar Tuareg:— A slender bough of the *tahunek* tree (*Rhus oxyacantha*) is bent and fixed into a circular form, and a piece of camel's hide soaked in water is attached to this frame. Sand and pebbles are thereupon placed upon the hide within the frame, which is lifted upwards by means of cords fastened to it and to the bough of a tree. This is done to produce the bowl-like form of the receptacle which is left filled with sand and pebbles and attached to the tree for a few days. Thus it is dried by the sun, and thereafter it will become very hard and keep the desired bowl-like form. Certain butter-containers made from raw camel hide are manufactured on the same principle, the entrance to such containers being made by the insertion of a piece of wood around which the upper part of the piece of hide is firmly attached. The sedentary agriculturists of Ahaggar also use camel's hide for the manufacture of a long rope (*akhamil*), which is used for drawing water from wells by means of oxen when the *tanut* system of irrigation (Fig. 132a–b) is employed. A rope of this kind is made from strips of soaked hide twisted together and hammered between stones to be left for drying in the sun. It is also said that camel's hide in the north is used for sandals of a particular type, while the Ayr Tuareg may use raw oxe-hide for sandals (cf. p. 301). The Ayr Tuareg may also employ raw oxe-hide for the manufacture of ropes and cords, and for camel whips. The hides of camels and oxen are known to the Tuareg by the common term *éyit* and they seem to possess certain qualities in common.

The hide of such animals as goats, sheep, gazelle, barbary sheep is never used unfanned among the Tuareg, and they may tan the hide of oxen and various other animals.

The Tuareg use a particular method for tanning goat-skin to be used for water-bags (*abayor*) (Figs. 215–217). I have watched this, particularly in Ahaggar, where a water-bag is prepared in the following way:— The animal is killed in the normal way of cutting its throat, and is then so skinned that the hide comes off almost entire. This is done by making the following openings with the knife: the head is cut off, cuts are made around the lower part of all four feet, and on the inner side of the

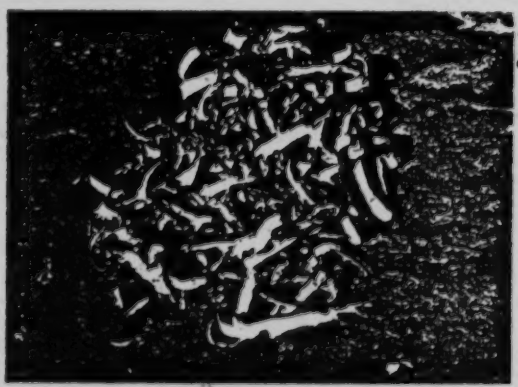

Fig. 214. Tannin consisting of bark (*tilat*) of the *tamat* acalia (*Acacia seyal*) which is used for tanning water bags. The bark is left upon a piece of rock for drying. Ahaggar, the *Ajjab-en-tahit* tribe.

[Text continues on p. 273]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

281
*415
531

Fig. 222. Large bag of *téchchékwat* type. The *téchchékwat* bags (pl. *téchchékwatin*) are normally made of entire skins of kids or goats while this large bag is made from several pieces of leather sewn together. Ahaggar, probably manufactured in Ayr. Dimension: 0.92 m long – not counting the leather tassels. (N.M. G. 5216).

281 (3) Butter or fatty substances are rubbed into the inner side of the skin, after which the skin is covered with wet sand for a while. (4) The skin is dried and thereupon softened by rubbing it between the hands – a task sometimes performed by men, though tanning is the task of women.

281 413 The implements used by the Tuareg for the manufacture of skin articles are few and simple. Sewing of skin is rarely done with a needle, though the large iron neddle known as *tasubla*, and in Ahaggar also as *tasuglo* (Fig. 220b), is used for sewing among the Ahaggar Tuareg in the manufacture of donkey saddles (cf. Fig. 86, p. 110). But with such rare exceptions the Tuareg sew their skin articles by means of the little awl known as *tistent* in Ahaggar (Fig. 218a), as *éston* in Ayr. With this implement the women pierce holes close to each other and through them draw thin leather thread [283] (*azzemi* in Ahaggar). Sinew thread is not in general use among the Tuareg, but I knew a gazelle hunter in Tasilé-n-Ajjer, who took out the sinews of the hind leg of a killed gazelle to use them for mending his leather belt. With this exception I have never seen sinew thread employed for sewing among pastoral Tuareg and my fairly large ethnographical collection containing all types of Tuareg skin and leather articles contains no specimen sewn with sinew thread. For sewing sandals the Ahaggar 413 Tuareg use a large awl which is known as *éndel* (Fig. 218b). This word is also used for iron implements

[Text continues on p. 280]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

Tent skins derive from domestic animals or from game animals. In older literature one can find a reference to Tuareg tents made of a sheet of camel skin (cf. Denham & Clapperton 1826, p. L). However, we have already seen that the Tuareg do not tan camel hides and they are not used for tent sheets. The Northern Tuareg use the skin of goats, sheep, zebu-calves, barbary sheep, antelope, and gazelle. Goat skin is most commonly used, skin of barbary sheep is considered the very best type of tent skin, while gazelle skin is rarely employed as it is very thin. According to Lhote, the *Kel Adrar* Tuareg generally use the skin of barbary sheep (Lhote 1947a, p. 108). The Ayr Tuareg use the skin of goats, sheep, and zebus. It is most possible that some Tuareg also use skin of game animals, but most Ayr Tuareg engage very little in hunting, though barbary sheep are very common in certain parts of the Massif. In the southern plains of the *Iwllemmeden* there are no barbary sheep. According to Nicolas, the *Iwllemmeden Kel Dennek* use for their tents the skin of sheep, goats, gazelle, and sometimes even the skin of ostriches, but they do not use zebu skin which becomes very hard and shrinks when heavily moistened during the rainy season (Nicolas 1938, p. 54 & 1950a, p. 155). The *Iwllemmeden* and their *Bélla* of the Ayoru region use the skin of goats and sheep for tent-sheets.

Tent skins are prepared in the same way as skins used for transportation bags, dress articles, and the like. They are depilated and tanned according to the methods described on p. 275 ff. After tanning they are treated with butter, and are thereupon soaked to be rubbed and coloured with red ochre, these treatments making the skins impervious to water. A tent sheet is always made of several pieces of skin which are sewn together with leather thread by means of a little awl known as *tistent* (Ahaggar), or *éstan* (Ayr). The edges where the skins have to be sewn are made even with a knife, while the outer edges of the sheet are left largely unfashioned so that the circumference of the sheet is of very irregular shape with protruding patches of leg or neck skin. These patches of skin frequently serve for the attachment of the cords by means of which the sheet is suspended. When two pieces of skin are sewn together a narrow leather strip is inserted between their edges before sewing. Loose ends of leather thread hang down from the inner side of the sheet to serve as a kind of decoration, and in Ahaggar the tents are also frequently ornamented with hanging patches of leather with a carved decoration (cf. Fig. 182). On the whole the Tuareg of Ahaggar take a great interest in their tents. They like to have richly-decorated dwellings, and when a tent is made for a newly-married couple, the women do their outmost to make the sheet very beautiful. These aesthetic feelings seem to be unknown in regard to other types of dwelling used among the Tuareg, including the mat tent, and I think that they are responsible for some Tuareg using skin tents even when other dwelling types would be more suitable. I believe this to be true, the more so as the skin tent among the Northern Tuareg plays a great part in the wedding ceremony, which is called *ihen*, that is "a tent".

It is evident that the number of skins to be used for a sheet greatly varies; if a sheet is made from goat skins it may be estimated that a tent of normal size in Ahaggar comprises about 35–40 skins, but very large tents with sheets of 60–80 skins are found among rich noble Tuareg and also in the *Dag Rali* tribe. A tent from Ahaggar now in the Ethnographical Collection of the National Museum in Copenhagen has a sheet sewn together from a great many skin patches, and it measures 4.00 × 3.85 metres (N.M., no. G.1; cf. Feilberg 1944, p. 139). This is perhaps to be considered a normal size of skin tents among the Ahaggar Tuareg, though the sheet is generally somewhat more rectangular in

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*342
281
283

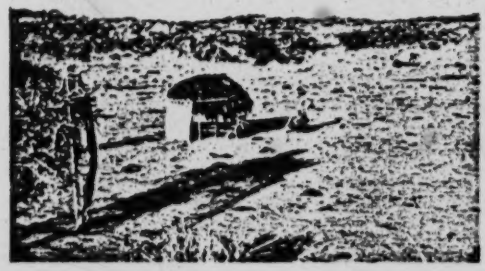

Fig. 270. An arched barrel-vaulted tent covered with a sheet of skin. In the background two arched mat tents. In the foreground to the left two cotton bows. Ayr, the *Kel Tédalé* tribe.

*342 true structure, and structurally there is a great diversity of tent types. It seems as if these tent structures can be divided into a few main groups which I shall describe in detail.

B.2.a. *Skin tents of arch construction.*

Tents which have one or more arches, generally placed at right angles to the longitudinal direction are widely found in Tuareg country. They are in fact more common than appears from the literature which has been so far published on Tuareg culture. The wide distribution of this particular structure in skin tents is interesting, the more so as it is related to the structure of mat tents. There are the following types of arch structures:—

B.2.a.1. This tent was seen in a camp of the *Kel Tédalé* Tuareg of North-western Ayr. It is known that skin tents are found among them (cf. Joubert 1939, p. 252 f.), but they have never been described. The Ayr Tuareg say that in the past many Tuareg of the *Kel Tédalé* lived in skin tents which, however, are less common among them nowadays. This agrees with my own experience. I have visited several *Kel Tédalé* camps, but I have only seen the skin tent here mentioned. This was found in a camp of three tents, the two others being ordinary mat tents. The skin tent I saw in this camp was also of the normal structure used for mat tents in Ayr, though shorter. The lower part was partly covered, not by a mat plaited from dum palm leaves, but by an *afezu* mat.

B.2.a.2. Under this heading I describe two identical tents seen in a camp of *Iregenaten* Tuareg who belong to the Ahaggar federation but have their traditional grazing grounds west of the Ayr Massif in the Tamesna Plains. The camp was actually situated in the region between Tegidda-n-tésemt and I-n-abanțerit, where perennial vegetation is extremely scarce and mainly comprises scattered *tamat* acacias (*Acacia flava*). The camp visited had eight skin tents among which were the two of arch construction as follows:—

Both tents were very small, and their wooden structure was made of boughs of the *tamat* acacia (*Acacia flava*). In the middle of the tent and at right angles to its longitudinal direction there was an